



User Manual

Per Port Monitoring Models

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1. Introduction

The ServerLink Per Port Monitoring PDU is a network ready device designed and equipped with an Intelligent True RMS Current Meter to indicate the individual power consumption of each outlet or total PDU power consumption.

The ServerLink PDU offers an easy to set up and user-friendly interface. The software enables you to remotely monitor power consumption of a single PDU or multiple PDUs.

Features:

- Built-in web server allowing real time monitoring of each individual outlet or total PDU current consumption
- Built-in True RMS current meter
- Easy Setup. The meter can display the IP address of the PDU
- Homepage supports SSL
- Provides audible alarm when the power consumption exceeds the warning threshold or overload threshold
- Send email and traps when the power consumption exceeds the warning threshold or overload threshold
- Utility software can monitor a large amount of ServerLink PDUs at the same time
- Supports SNMP and provides MIB for the PDU to be monitored by NMS
- Indicates outlet and circuit status with LED
- Supports power on sequence
- Supports user-defined delayed time for power on and power off
- Scheduled control of outlet power
- User-defined group outlet control
- Auto reboots locked devices by pinging their IP address
- Supports network time protocols
- Optional probes can support temperature and humidity monitoring
- Provides power protection via the circuit breaker

2. Package Contents

The standard ServerLink PDU package contains a Power Distribution Unit with supporting hardware and software.

- Power Distribution Unit
- Rack Mount Brackets
- CD-ROM containing:
 - ServerLink PDU User Manual
 - ServerLink PDU Utility User Manual
 - ServerLink PDU Utility Software
 - MIB: Management Information Base for Network (ServerLink.mib)
 - Adobe Acrobat Reader

3. Function



Functions	Description
Ethernet	<ul style="list-style-type: none">• The Network connection for the built-in web server
Audible Alarm	<ul style="list-style-type: none">• PDU exceeds warning threshold - 1 beep per second• PDU exceeds overload threshold - 3 beeps per second
<p>Note: The audible alarm will not change beeping status until the current drops more than 0.5A below the warning or overload threshold</p>	
Function Button	<ul style="list-style-type: none">• Press and release to turn off the warning beep. The overload beeping cannot be cancelled• Press and hold, after 1 beep, release the button. The meter will display the current information and temperature/humidity in outlet sequence• Press and hold, after 2 beeps release the button. The meter will display the IP address of the PDU• Press and hold, after 4 beeps release the button and the PDU will change the way to assign the IP address...via DHCP or Fixed IP• Press and hold, after 6 beeps release the button. The PDU will reset the power to all outlets and restore all settings to factory default
Meter	<ul style="list-style-type: none">• Displays the current consumption or IP Address
ID	<ul style="list-style-type: none">• Indicates the outlet number for the meter display

LED Indicator

- SSL (Yellow): Light on means web access is protected by SSL
 - DHCP (Green): Light on means PDU is assigned an IP address via DHCP
 - Outlet 1-8 (Green): Light on indicates outlet power is on. Light off indicates outlet power is off
 - Status (Red): Indicates each circuit status
-

ENV	<ul style="list-style-type: none">● RJ11 connector for optional environmental monitoring probe to monitor temperature and humidity
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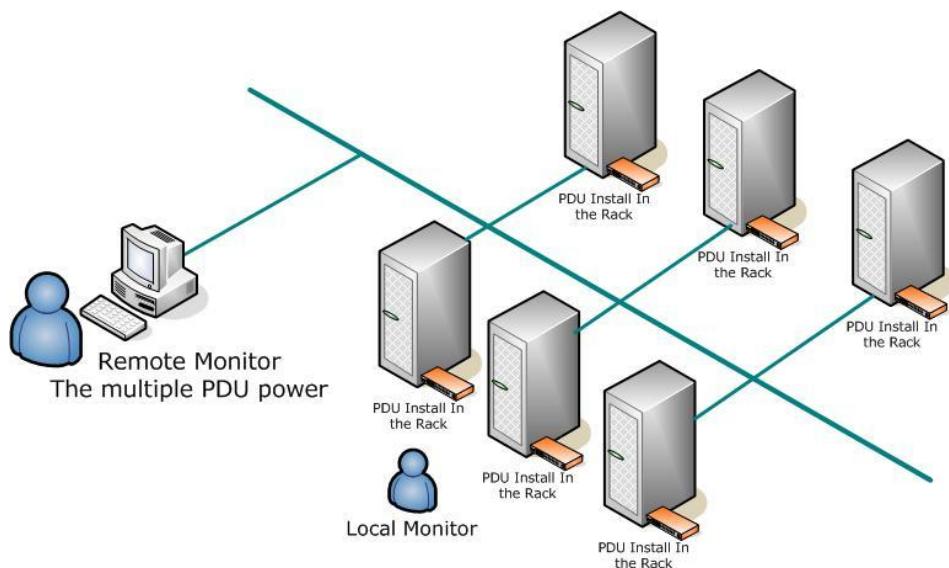
Circuit Breaker	<ul style="list-style-type: none">● Overload power protection
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4. Installation

Rack Mount Instructions

- A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature specified by the manufacturer.
- B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Diagram



Hardware

1. Install mounting brackets
2. The ServerLink PDU comes with brackets for mounting in a rack. To mount the PDU into a rack, perform the following procedure
3. Attach the mounting brackets to the unit, using the four retaining screws provided for each of the brackets
4. Choose a location for the brackets.
5. Align the mounting holes of brackets with the notched hole on the vertical rail and attach with the retaining screws
6. Connect input and output power
7. Connect Ethernet cable to the PDU
8. Switch on the PDU

Note 1:

The default setting to assign the IP address is DHCP. If the PDU cannot get the IP from a DHCP server, the IP address will default to 192.168.0.216

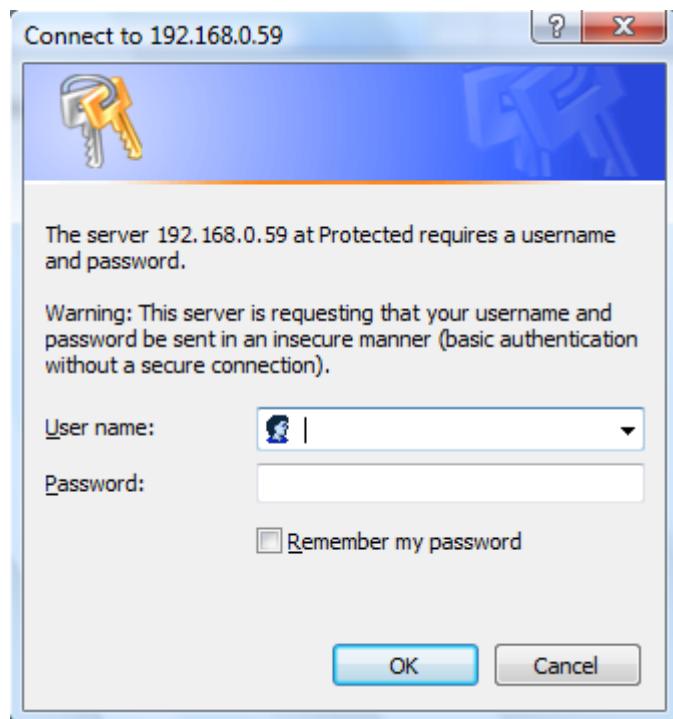
5. Web Interface

Login:

Enter the ServerLink PDU IP address into a web browser

Default User Name is **snmp**

Default Password is **1234**



Information: PDU

Displays individual power consumption of each outlet or total PDU power consumption

If an optional environmental probe has been connected, it will display the temperature and humidity information

 Total load: 0.0 A , Status: Normal		
Information	PDU	
PDU	PDU1	0.0 A Normal
System	PDU2	0.0 A Normal
Control	PDU3	0.0 A Normal
Outlet	PDU4	0.0 A Normal
Group	PDU5	0.0 A Normal
Schedule	PDU6	0.0 A Normal
Ping Action	PDU7	0.0 A Normal
Configuration	PDU8	0.0 A Normal
PDU	Total Current	0.0 A Normal
Threshold	Option Device	
User	Temperature	+20.4 C
Network	Humidity	58 %
Mail		
SNMP		
SSL		
Time		

Information: System

Displays PDU system information, including:

Model No.

Firmware Version

MAC Address

System Name

System Contact

Location

**SERVERLINK
PDU**

Total load: 0.0 A , Status: Normal

Information	Model No.	SLP-SPP1608-H
PDU	Firmware Version	s4.82-090828-8cb8s
System	MAC Address	00:16:18:77:09:17
Control	System Name	<input type="text" value="PDU"/>
Outlet	System Contact	<input type="text" value="Admin"/>
Group	Location	<input type="text" value="Office"/>
Schedule		<input type="button" value="Apply"/>
Ping Action		
Configuration		
PDU		
Threshold		
User		
Network		
Mail		
SNMP		
SSL		
Time		

Control: Outlet

Displays PDU outlet on/off status

Select the outlet by checking the box and then click ON, OFF or OFF/ON button to control the output power for PDU

ON: Press this button to turn on the assigned outlets

OFF: Press this button to turn off the assigned outlets

OFF/ON: Press this button to reboot the assigned outlets

Total load: 0.0 A , Status: Normal			
Information	Outlet Name	Status	<input type="checkbox"/>
PDU	OutletA	ON	<input type="checkbox"/>
System	OutletB	ON	<input type="checkbox"/>
Control	OutletC	ON	<input type="checkbox"/>
Outlet	OutletD	ON	<input type="checkbox"/>
Group	OutletE	ON	<input type="checkbox"/>
Schedule	OutletF	ON	<input type="checkbox"/>
Ping Action	OutletG	ON	<input type="checkbox"/>
Configuration	OutletH	ON	<input type="checkbox"/>
PDU	<input type="button" value="ON"/>	<input type="button" value="OFF"/>	<input type="button" value="OFF/ON"/>
Threshold			
User			
Network			
Mail			
SNMP			
SSL			
Time			

Control: Group

Control outlet power for multiple outlets

Setting: Press the setting button to enter setting mode

Outlet: Assign the outlet in a group

Note: The outlet number needs to be input in alphabetical order

ON: Press this button to turn on the assigned group

OFF: Press this button to turn off the assigned group

Active: Select this check box to enable the group to be controlled

Outlet (A,B,C)	ON	OFF	Active
A,	ON	OFF	<input checked="" type="checkbox"/>
B,	ON	OFF	<input checked="" type="checkbox"/>
C,	ON	OFF	<input checked="" type="checkbox"/>
D,	ON	OFF	<input checked="" type="checkbox"/>
E,	ON	OFF	<input checked="" type="checkbox"/>
F,	ON	OFF	<input checked="" type="checkbox"/>
G,	ON	OFF	<input checked="" type="checkbox"/>
H,	ON	OFF	<input checked="" type="checkbox"/>

Total load: 0.0 A , Status: Normal

Information

- [PDU](#)
- [System](#)

Control

- [Outlet](#)
- [Group](#)
- [Schedule](#)
- [Ping Action](#)

Configuration

- [PDU](#)
- [Threshold](#)
- [User](#)
- [Network](#)
- [Mail](#)
- [SNMP](#)
- [SSL](#)
- [Time](#)

Setting Apply

Control: Schedule

Control the assigned outlet by pre-defined schedule

Outlet: Assign the outlet that you want to be controlled in this schedule

Every: Set a single day, a week day or every day

Date: If "Sgl" is selected, you need to input a date here

Action:	Begin:	End:
ON	Turn on outlet at this time	None
OFF	Turn off outlet at this time	None
OFF/ON	Turn off outlet at this time	Turn on outlet at this time
ON/OFF	Turn on outlet at this time	Turn off outlet at this time

Active: Select this check box to enable the assigned scheduled control

SERVERLINK PDU

Total load: 0.0 A , Status: Normal

Information	Current Time: 2007/01/01 02:22:04	Outlet	Every	Date	Begin	End	Action	Active
PDU		(A,B,..)		(yy/mm/dd)	(hh:mm)	(hh:mm)		
System		A,	Mon	09/06/30	07:59	18:30	ON	<input checked="" type="checkbox"/>
Control		B,	Mon	09/06/30	07:59	18:30	ON	<input checked="" type="checkbox"/>
Outlet		C,	Mon	09/06/30	07:59	18:30	ON	<input checked="" type="checkbox"/>
Group								
Schedule								
Ping Action								
Configuration								
PDU								
Threshold								
User								
Network								
Mail								
SNMP								
SSL								
Time								

Control: Ping Action

Automatically reboots locked devices by pinging their IP address

Ping IP Address: Set the device IP address that you want monitored

Response 10 minutes: The PDU will ping the assigned IP address once every minute. If the device does not respond, the number will be increased by one. After 10 attempts (10 minutes), if the device has not responded, the number will display 10 and the PDU will carry out the assigned action automatically

Action: Select outlet action to "OFF" or "OFF/ON"

Active: Select this check box to enable this Ping function

SERVERLINK PDU					
Total load: 0.0 A , Status: Normal					
Information	Ping IP Address	Response 10 minutes	Outlet	Action	Active
PDU	<input type="text" value="19.168.23.200"/>	0	OutletA	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
System	<input type="text" value="19.168.23.201"/>	0	OutletB	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Control	<input type="text" value="19.168.23.202"/>	0	OutletC	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Outlet	<input type="text" value="19.168.23.203"/>	0	OutletD	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Group	<input type="text" value="19.168.23.204"/>	0	OutletE	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Schedule	<input type="text" value="19.168.23.205"/>	0	OutletF	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Ping Action	<input type="text" value="19.168.23.206"/>	0	OutletG	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
Configuration	<input type="text" value="19.168.23.207"/>	0	OutletH	<input type="button" value="OFF"/> <input type="button" value="▼"/>	<input type="checkbox"/>
PDU					
Threshold					
User					
Network					
Mail					
SNMP					
SSL					
Time					

Configuration: PDU

Set the outlet name and delay time

Name: Rename the outlet

ON: Set the delay time for power on sequence

OFF: Set the delay time for power off sequence

Note: The maximum delay time is 255 seconds

Total load: 0.0 A , Status: Normal			
Information PDU System Control Outlet Group Schedule Ping Action Configuration PDU Threshold User Network Mail SNMP SSL Time	Name	ON Delay (sec)	OFF Delay (sec)
	OutletA	1	1
	OutletB	2	2
	OutletC	3	3
	OutletD	4	4
	OutletE	5	5
	OutletF	6	6
	OutletG	7	7
	OutletH	8	8

Configuration: Threshold

Set the warning and overload threshold for each outlet

Set the lower and upper threshold for temperature and humidity

**SERVERLINK
PDU**

Total load: 0.0 A , Status: Normal

Information	Name	Threshold (Amp)	
		Warning	Overload
PDU	PDU1	8	10
System	PDU2	8	10
Control	PDU3	8	10
Outlet	PDU4	8	10
Group	PDU5	8	10
Schedule	PDU6	8	10
Ping Action	PDU7	8	10
Configuration	PDU8	8	10
PDU	Temperature	Lower	Upper
Threshold		1	99
User	Humidity	1	99
Network			
Mail			
SNMP			
SSL			
Time			

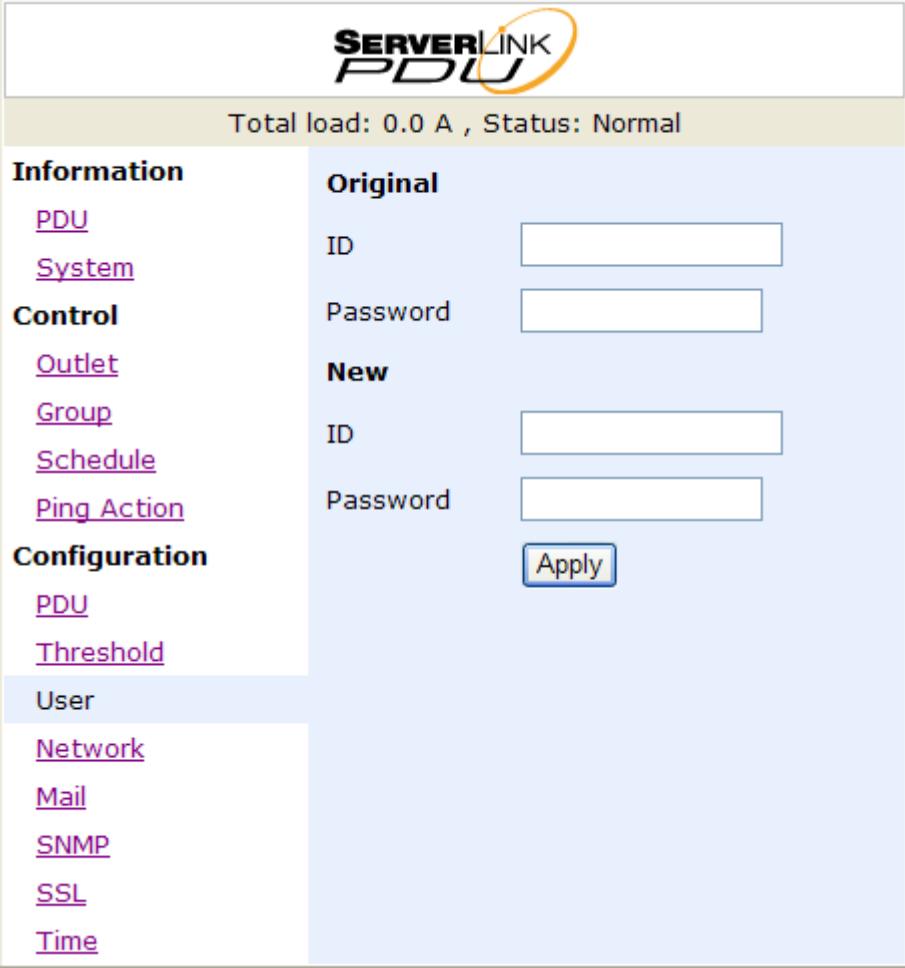
Apply

Configuration: User

Change ID (Username) and password. ID and password are case sensitive

Default ID is **snmp**

Default password is **1234**



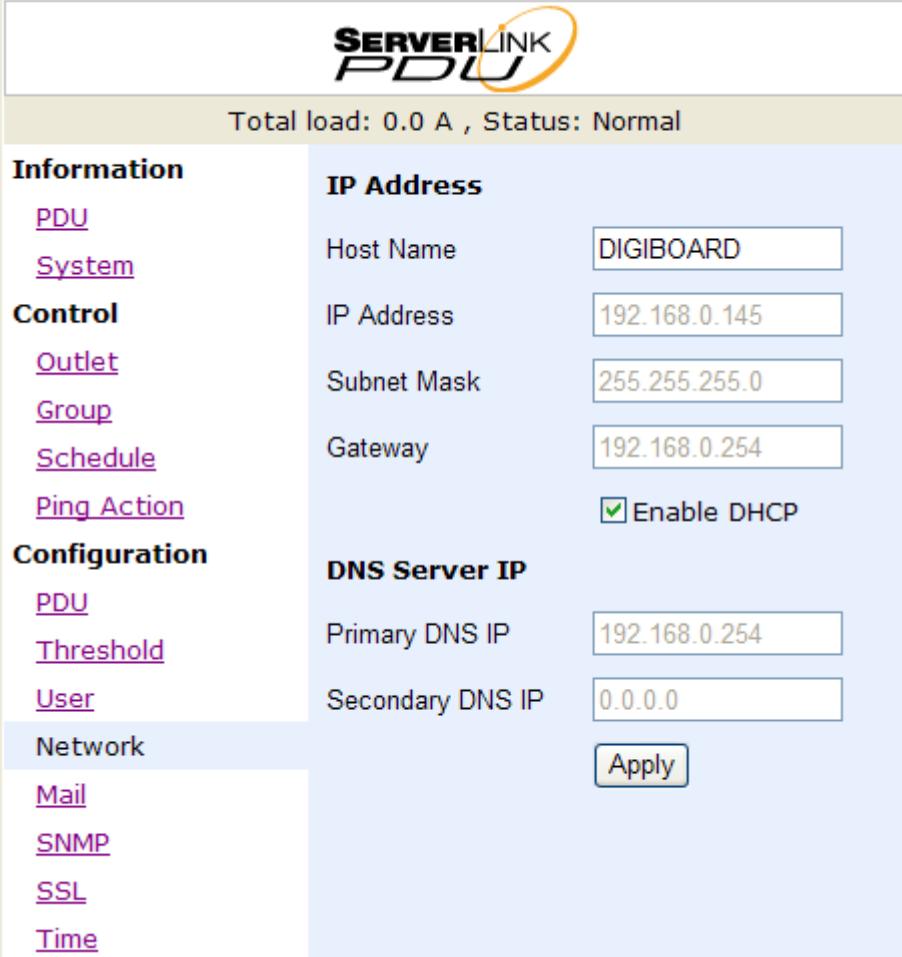
The screenshot shows the 'User' configuration page of the ServerLink PDU software. The interface is divided into two main sections: 'Original' and 'New'. The 'Original' section contains fields for 'ID' and 'Password'. The 'New' section contains fields for 'ID' and 'Password'. Both sections have 'Apply' buttons. The left sidebar lists various configuration options: PDU, System, Control, Outlet, Group, Schedule, Ping Action, Configuration, PDU, Threshold, User, Network, Mail, SNMP, SSL, and Time. The 'User' option is currently selected.

Information	
PDU	Original
System	ID <input type="text"/>
Control	Password <input type="text"/>
Outlet	New
Group	ID <input type="text"/>
Schedule	Password <input type="text"/>
Ping Action	
Configuration	<input type="button" value="Apply"/>
PDU	
Threshold	
User	
Network	
Mail	
SNMP	
SSL	
Time	

Configuration: Network

PDU network information

Enable DHCP: Change the way to assign the IP address for the PDU



The screenshot shows the 'Configuration: Network' page of the ServerLink PDU software. The interface has a navigation menu on the left and configuration fields on the right.

Information:

- [PDU](#)
- [System](#)

Control:

- [Outlet](#)
- [Group](#)
- [Schedule](#)
- [Ping Action](#)

Configuration:

- [PDU](#)
- [Threshold](#)
- [User](#)

Network:

- [Mail](#)
- [SNMP](#)
- [SSL](#)
- [Time](#)

IP Address:

Host Name	DIGIBOARD
IP Address	192.168.0.145
Subnet Mask	255.255.255.0
Gateway	192.168.0.254
<input checked="" type="checkbox"/> Enable DHCP	

DNS Server IP:

Primary DNS IP	192.168.0.254
Secondary DNS IP	0.0.0.0

Buttons:

- Apply

Configuration: Mail

When an event occurs, the PDU can send an email message to a specified email address

Email Server: This setting must be a local or public fully qualified domain name. Eg. mailserver.domain.local or mail.domain.com.au (It cannot be an IP address)

Sender's Email: Input the sender's email address

Email Address: Input the recipient's email address

The message in the email will be as follows:

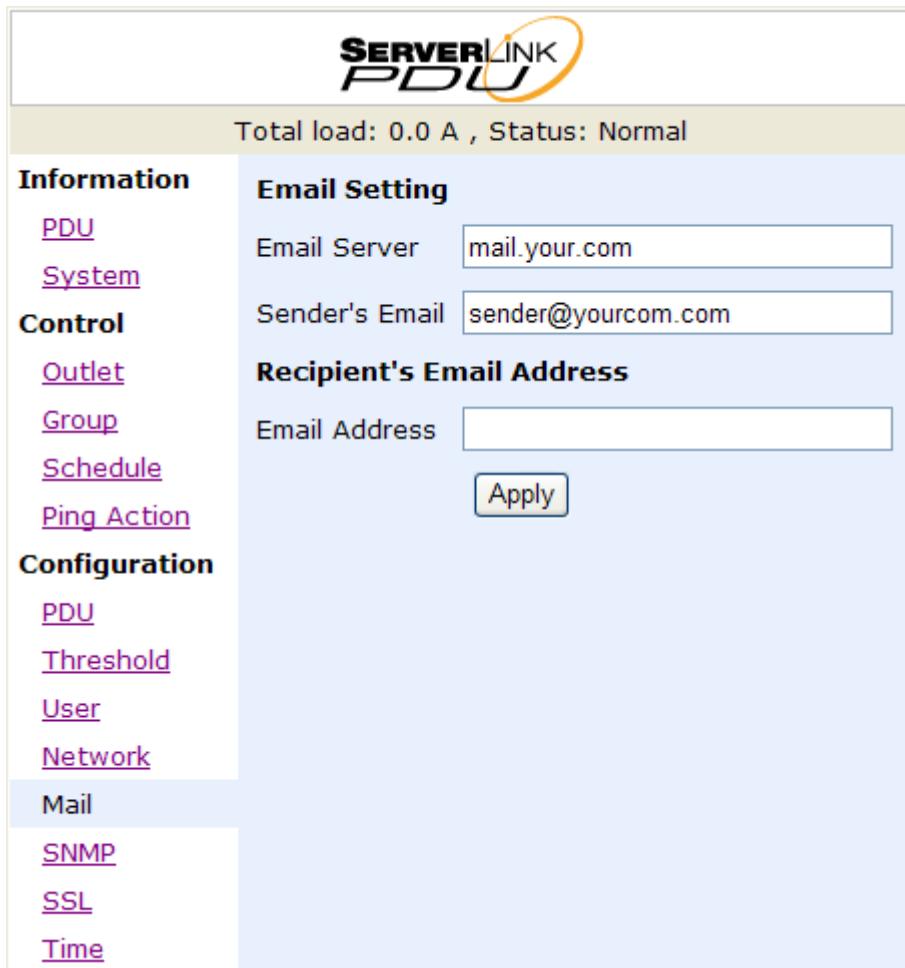
XXXXXXX

The above indicates the outlet status of ports A to H in order

X=0 : means the power off

X=1 : means the power on

Note: Make sure DNS server can resolve the Email Server's domain name



The screenshot shows the ServerLink PDU web interface. The top header displays the ServerLink PDU logo. Below the header, a status bar shows "Total load: 0.0 A, Status: Normal". The left sidebar contains a navigation menu with the following items: **Information** (PDU, System), **Control** (Outlet, Group, Schedule, Ping Action), **Configuration** (PDU, Threshold, User, Network, Mail, SNMP, SSL, Time). The **Mail** option is currently selected and highlighted in blue. The main content area is titled "Email Setting" and contains two input fields: "Email Server" with the value "mail.your.com" and "Sender's Email" with the value "sender@yourcom.com". Below these fields is a section titled "Recipient's Email Address" with an "Email Address" input field and an "Apply" button. The overall layout is a standard web-based configuration interface.

Configuration: SNMP

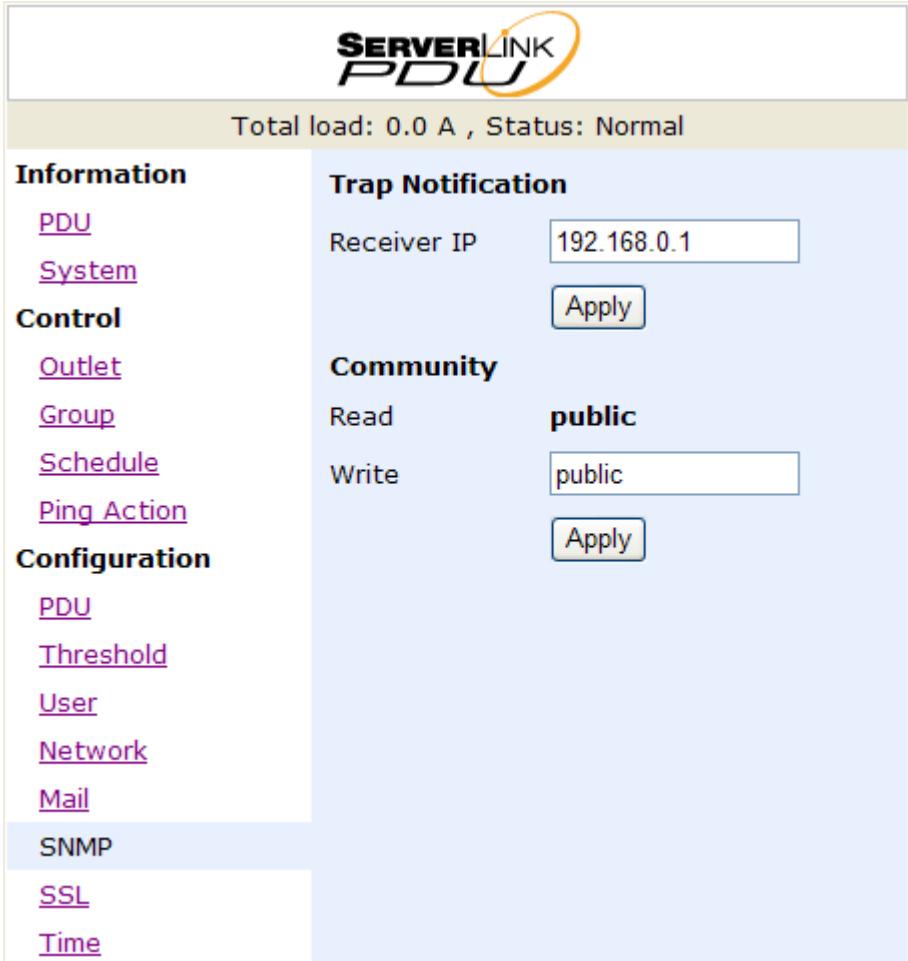
When an event occurs, the PDU can send out a trap message to a specified IP address

Trap Notification: Set receiver IP address for trap

Community: Set SNMP community

Read Community is public and fixed

Default Write Community is “public” and can be modified by user



The screenshot shows the configuration interface for a ServerLink PDU. The top bar displays the ServerLink PDU logo and the text "Total load: 0.0 A , Status: Normal". The left sidebar contains a navigation menu with the following items:

- Information**
 - [PDU](#)
 - [System](#)
- Control**
 - [Outlet](#)
 - [Group](#)
 - [Schedule](#)
 - [Ping Action](#)
- Configuration**
 - [PDU](#)
 - [Threshold](#)
 - [User](#)
 - [Network](#)
 - [Mail](#)
 - [SNMP](#)
 - [SSL](#)
 - [Time](#)

The main content area is titled "Trap Notification" and contains the following configuration fields:

Receiver IP	<input type="text" value="192.168.0.1"/>
<input type="button" value="Apply"/>	

Below this, under the "Community" section, the "Read" community is set to "public" and the "Write" community is also set to "public". There is another "Apply" button for this section.

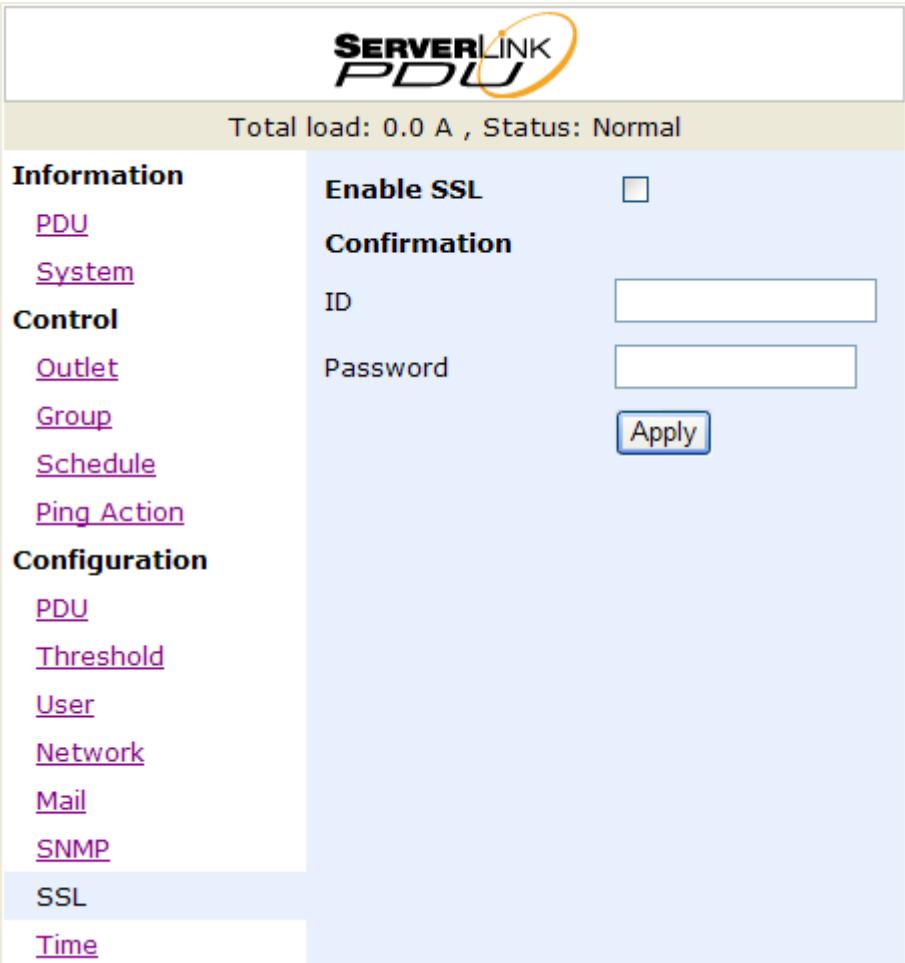
Configuration: SSL

Enable SSL for web communication

User must input the correct ID and password to enable SSL function

Default ID is **snmp**

Default password is **1234**



The screenshot shows the configuration interface for a ServerLink PDU. The top header displays the 'SERVERLINK PDU' logo and the text 'Total load: 0.0 A , Status: Normal'. The left sidebar contains a navigation menu with the following items:

- Information**
 - [PDU](#)
 - [System](#)
- Control**
 - [Outlet](#)
 - [Group](#)
 - [Schedule](#)
 - [Ping Action](#)
- Configuration**
 - [PDU](#)
 - [Threshold](#)
 - [User](#)
 - [Network](#)
 - [Mail](#)
 - [SNMP](#)
 - [SSL](#) (This item is highlighted with a blue background)
 - [Time](#)

The main configuration area on the right is titled 'SSL' and contains the following fields:

- Enable SSL**: A checkbox that is currently unchecked.
- Confirmation**: A section containing two input fields for 'ID' and 'Password', and a blue 'Apply' button.

Configuration: Time

Set the time for schedule control.

Internet Time Setting: Get time from the assigned network time server.

System Time: Input time manually.



The screenshot shows the configuration interface for a ServerLink PDU. The top bar displays the ServerLink PDU logo and the text "Total load: 0.0 A, Status: Normal". The left sidebar contains a navigation menu with the following items under "Information": PDU, System, Control, Outlet, Group, Schedule, Ping Action. Under "Configuration", the items are: PDU, Threshold, User, Network, Mail, SNMP, SSL, and Time. The main content area is titled "Internet Time Setting" and contains the following fields: "Time Between Updates" (set to "NO"), "Primary Time Server" (set to "pool.ntp.org"), "Secondary Time Server" (set to "asia.pool.ntp.org"), and "Time Zone" (set to "GMT+8:00"). There is also an "Apply" button. Below this, the "System Time" is displayed as "2007/01/01 02:20:23", with a note in parentheses: "(yyyy/mm/dd hh:mm:ss)". An "Apply" button is located next to this field.